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10/568,342	06/05/2006	Allan Mitchell	A-9955	2429

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EXAMINER	
POLYANSKY, ALEXANDER	
ART UNIT	PAPER NUMBER
4181	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/568,342	MITCHELL ET AL.	
	Examiner	Art Unit	
	ALEXANDER POLYANSKY	4181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 June 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/13/06 and 2/14/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of an Application

Claims 1-11 are pending and presented for examination on merit.

Drawings

1. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance. These drawings can be found in any physics or chemistry or physical chemistry book describing the electrolysis of water.

Specification

2. The disclosure is objected to because of the following informalities: page 11, paragraph 0068; page 14, paragraphs 0083 and 0087 disclose a value for the standard electrode potential for the reduction of water to be -0.41 V. As per Physical Chemistry 3rd Edition, it should read -0.83 V (applicants cited document).

Appropriate correction is required.

3. The disclosure is objected to because of the following informalities: pages 8 and 15, paragraphs 0049 and 0092, line 1, the word "preferably" should be "preferable".

Appropriate correction is required.

4. The disclosure is objected to because of the following informalities: page 13, paragraph 0075, line 1, the word "of" should be "or".

Appropriate correction is required.

5. The disclosure is objected to because of the following informalities: paragraph 0032 fails to define a reactive or a catalytic point. It merely restates the obvious.

Appropriate correction is required.

6. Claim 6 is objected to because of the following informalities: on line 2 "on" should read "one". Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-11 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for selecting the half cells and oxidation of species selected from Group I and II metals and etc., does not reasonably provide enablement for dissociation of water at or near a reactive or catalytic surface or formation of a semiconductive material. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. It is unclear what catalyst is being used in the apparatus/process claimed. The specification alludes to a cathodic screen (i.e. paragraph 0067), a cathodic surface (i.e. 0075), a half-cell reductant, or that the

catalytic surface may be capable of regeneration (i.e. 0066), but it never defines the catalyst being used other than that a half-reductant may be any of the instant claim 5. Further, it is unclear what semiconductive material is formed. The specification (i.e. 0049, 50, 92, 93) suggests that a semiconductive material or molecule is formed. There is no evidence in the specification as to what that material or molecule is. Without the examples and specific guideline, one skilled artisan require undue experiment. The true fact of the state of the art is expressed well, "The significance of particular reaction for modifying catalytic surface or forming semiconductive material cannot be predicted a priori but must be determined from the case to case by painstaking experimental study and when the above factors are weighed together, one of ordinary skill in the art would be burdened with undue "painstaking experimentation study " to determine the efficacy.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. In claim 1 the term "system" is indefinite as to whether it refers to an apparatus or a process.

11. Claims 1-11 are rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph.

The claim(s) are narrative in form and replete with indefinite and functional or operational language. The structure which goes to make up the device or process must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. The claim(s) must be in one sentence form only. Note the format of the claims in the patent(s) cited.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by US 6866835, Stephenson et al.

Claims 1-11 are drawn to a system comprising no structural elements to make that system, so a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. The claimed invention is drawn to a system which is an apparatus or machine and has no structural components described other than the reactor which has no patentable weight. Armed with this information, the examiner is bound to reject the claims that disclose an enhanced non-electrolytic energy production system that has a reactor, which could be any reactor that utilizes an electric current. So, as the claims do not clearly point out the

patentable novelty which the inventor thinks the claims present in view of the state of the art disclosed by the references cited, the claims are therefore rejected for lack of novelty.

If the claims were drawn to a process of water dissociation, then continued below is the prosecution of these claims.

As per claim 1, Stephenson teaches the non-electrolytic energy production by dissociating H_2O (column 3, lines 11-67).

As per claims 2-3, Stephenson teaches the electronegative and electropositive half cells and using combinations thereof within the reaction system. Stephenson teaches chemical system defined by an electronegative half cell reaction producing hydrogen, a first electropositive half cell having a sufficient potential to drive the electronegative half cell reaction; and a second electropositive half cell reaction (column 3, lines 9-38).

As per claim 5, Stephenson teaches instantly claimed oxidation of species selected from Groups I & II metals, binary and ternary hydrides, amphoteric elements, and etc. (column 4, lines 15-21 and claims 6, 7, 9, 10).

As per claim 6, Stephenson teaches the instantly claimed metal organic complex (column 4, lines 22-25 and claim 8).

As per claim 9, Stephenson teaches an associated heat exchange system (column 6,

lines 5-8). Stephenson admits that the generator of the invention preferably includes an inbuilt heat exchange system that can be used to transfer heat from an exothermic chemical reaction in the cell or control the rate of the exothermic chemical reaction.

As per claims 10-11, Stephenson (column 1 lines 27-38 and column 3, lines 9-38).

Stephenson teaches a cell for generating hydrogen and/or energy by combining reactants in a chemical reaction system including an electronegative half cell reaction producing hydrogen; a first electropositive half cell reaction having a sufficient potential to drive electronegative half cell reaction; and a second electropositive half cell reaction. His invention provides a hydrogen generator including a chemical system which produces hydrogen from water and a supporting cathode screen.

Each critical element required by the instant claims is taught by Stephenson and minor variations in process order designed to determine most effective outcome or missing are inherent in steps like half cell reactions require or are assisted by the provision of a reactive or catalytic surface; formation of a semiconductive material which is a composite; or that the steam is produced as a by-product of generation of hydrogen as in instant claims 1, 2, 4, 7, and 8 (column 2, line 20 of Stephenson) is clealy envisaged by the skilled level of the artisan.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEXANDER POLYANSKY whose telephone number is (571)270-5904. The examiner can normally be reached on Monday-Friday, 8:00 a.m. EST - 5:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on 571-272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AP

/Vickie Kim/
Supervisory Patent Examiner, Art Unit 4181